

## CLAIMS

1. An arrangement for mounting and fixing a rearview camera (10) to a structure element of the body of a motor vehicle, the arrangement being of the type in which the camera (10) is arranged at the rear of the vehicle and its optical axis (C) extends substantially longitudinally towards the rear;

the camera (10) being arranged inside a housing (12) that is hermetically-sealed, and that is provided with a view window situated on the optical axis (C) of the camera (10);

said arrangement being characterized in that the window is constituted by an opening in the housing (12) that is provided on the optical axis (C) of the camera (10) and that is closed off by a transverse vertical pane (18) made of a transparent material.

2. An arrangement according to the preceding claim, characterized in that the housing (12) includes a frame (20) for supporting the pane (18) which defines a rear transverse vertical wall (12), and in that the pane (18) is pressed longitudinally towards the rear against a front transverse vertical face of the frame (20).

3. An arrangement according to the preceding claim, characterized in that the frame (20) carries resilient elements (26) which are in contact with the front transverse vertical face (18a) of the pane (18), for holding the pane (18) pressed against the front face of the frame (20).

4. An arrangement according to claim 2 or claim 3, characterized in that the top face (28s) of a bottom transverse segment (28) of the frame (20) slopes downwards, from the bottom edge of the pane (18).

5           5. An arrangement according to any one of claims 2 to 4, characterized in that the housing (12) carries spray means (30) for spraying cleaning liquid for cleaning the outside transverse vertical face of the pane (18).

10           6. An arrangement according to the preceding claim, characterized in that the spray means (30) are formed integrally with the housing (12).

            7. An arrangement according to the preceding claim, characterized in that the spray means (20) comprise a nozzle (34) that is fixed to a top horizontal wall of the housing (12).

15           8. An arrangement according to any preceding claim, characterized in that the inside vertical transverse face (18a) of the pane (18) is covered with a layer of material suitable for generating heat.

20           9. An arrangement according to the preceding claim, taken in combination with the claim 3, characterized in that the resilient elements (26) are made of an electrically conductive material so as to connect the heater material electrically to an electrical current source.

25           10. An arrangement according to the preceding claim, characterized in that it is further provided with strips (36) of conductive material that extend longitudinally inside the housing (12) for electrically

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connecting the resilient elements (26) to a current source.

11. An arrangement according to the preceding claim, characterized in that each of the resilient  
5 elements (26) constitutes a rear end segment of a respective one of the strips of conductive material (36).

12. An arrangement according to claim 10,  
characterized in that the resilient elements (26) are  
separate elements mounted on the rear ends (36b) of the  
10 strips of conductive material (36).

13. An arrangement according to the preceding claim, characterized in that each of the resilient  
elements (26) is provided with a presser finger (42)  
for pressing against the front face (18a) of the pane  
15 (18), which finger is suitable for sliding inside a tubular element (44), and is held resiliently in abutment against the front face (18a) of the pane (18).

14. An arrangement according to any one of claims  
10 to 13, characterized in that the front longitudinal  
20 end (36a) of each of the strips of conductive material (36) extends inside a socket (42) that extends upwards relative to a top wall (14s) of the housing (12), and that is open at its rear end (42b) for receiving a complementary connector.

25 15. An arrangement according to claim 1, characterized in that the housing (12) is provided with a frame (20) for supporting the pane (18), which frame is overmolded around the peripheral edge of the pane (18).

16. An arrangement according to the preceding  
30 claim, taken in combination with claim 8, characterized

in that the frame (20) and the pane (18) are fixed to the housing (12) by fixing means (56) which are suitable for electrically connecting the layer of heater material to a current source.

5           17. An arrangement according to the preceding claim, characterized in that the fixing means (56) comprise at least one clip (58) arranged at one edge (18d, 18g) of the pane, and a longitudinal fixing catch (60) that extends longitudinally forwards from the clip  
10       (58) and that is suitable for being received in a complementary recess (70) in the housing (12).

          18. An arrangement according to the preceding claim, characterized in that the clip (58) is provided with at least one contact finger (68) for establishing  
15       contact with the layer of heater material.

          19. An arrangement according to any one of claims 16 to 18, characterized in that the fixing means (56) are made in one piece by cutting out and folding a strip of electrically conductive material.

20           20. An arrangement according to claim 18 or claim 19, characterized in that the clip (58) is provided with means (64s, 64i) for vertically positioning it relative to the pane (18).

          21. An arrangement according to any one of claims  
25       16 to 20, characterized in that the fixing means (56) are symmetrical about a horizontal midplane.

          22. An arrangement according to any one of claims  
16 to 19, characterized in that the frame (20) is overmolded around the clip (58) of each fixing means  
30       (56).

23. An arrangement according to any preceding claim, of the type in which the structural vehicle-body element (48) has a rear vertical wall (48a) and a bottom horizontal wall (48i) which extends  
5 longitudinally forwards from the bottom edge of the rear wall (48a), and of the type in which the body (12) of the housing passes through a complementary orifice in the bottom wall (48i) at least in part, said arrangement being characterized in that it is provided  
10 with means for deflecting water flowing over the rear wall (48a), substantially above the camera (10).

24. An arrangement according to the preceding claim, characterized in that it is provided with a tongue (50) that extends vertically downwards from the  
15 bottom wall (48i), behind the camera (10), and that has a free bottom end edge (50i) that is arched so as to re-direct, at least in part, the water flowing over the rear wall (48a).

25. An arrangement according to the preceding  
20 claim, characterized in that the bottom edge (50i) of the tongue (50) is curved back towards the rear to form an arched lip (52).

26. An arrangement according to claim 23,  
characterized in that the rear wall (48a) is provided  
25 with a projection (54) that projects towards the rear.

27. An arrangement according to any preceding claim, characterized in that the housing (12) is made of a transparent material, and in that each of its walls other than the rear vertical transverse wall is  
30 covered with a layer of an opaque material.

28. An arrangement according to any preceding claim, characterized in that the pane (18) is in the form of a disk that is coaxial with the optical axis (C) of the camera (10), and in that the peripheral edge (18c) of the pane (18) is provided with a thread (38) that co-operates with a complementary thread (40) in the frame (20) so as to close the opening in the housing (12) in waterproof manner and in removable manner.

29. An arrangement according to claim 1, taken in combination with claim 8, characterized in that it includes:

- at least one resilient electrical connection means (100, 101); and
  - conductive tracks (107) provided in the housing (110) and designed for electrically powering the layer (106) of material suitable for generating heat;
- the resilient connection means (100, 101) being placed such as to generate electrical contact between said layer (106) and said tracks (107).

30. An arrangement according to the preceding claim, characterized in that one resilient connection means (100) extends over a first side of the rear face (18a) of the pane (18) and another resilient connection means (101) extends over a second side of the face (18a) opposite from the first face.

31. An arrangement according to claim 29 or 30, characterized in that it is provided with sealing means (104) whose rear portion is overmolded around the peripheral edge of the resilient connection means (100,

101) and extends over the periphery of the rear face (18a) of the pane (18).

32. An arrangement according to the preceding claim, characterized in that the sealing means (104)  
5 are in the form of a non-conductive elastomer.

33. An arrangement according to claim 31 or 32, characterized in that the sealing means further include a front portion connected to the rear portion via at least one bridge (109), the bridge being designed to be  
10 folded so that the rear portion and the front portion are placed respectively against the rear transverse face (18a) and against the front transverse face (18b) of the pane (18).

34. An arrangement according to any one of claims  
15 29 to 33, characterized in that it is provided with a thermal protection component (105) for regulating the temperature of the layer (106).

35. An arrangement according to the preceding claim, characterized in that the thermal protection  
20 component (105) is electrically coupled between the resilient connection means (100, 101) and the conductive tracks (107).

36. An arrangement according to any one of claims  
25 29 to 35, characterized in that the resilient connection means (100, 101) are filled with electrically conductive particles.

37. An arrangement according to any preceding claim 29 to 36, characterized in that it is provided with a locking clip suitable for compressing the

resilient connection means (100, 101) between the pane (18) and the conductive tracks (107).